Section:	01	Title:	Operations
Sub Section:	13	Title:	Mainframe Connectivity Options & Procedures
Document:	01	Title:	Customer Information Control System (CICS)

1. STANDARD

1.1. Summary of Standard Changes

Initial publication.

1.2. Purpose

1.3. Scope

1.4. Responsibilities

ADOA ISD IPC Customers
ADOA ISD IPC Technical Support Personnel

1.5. Definitions and Abbreviations

ADOA - Arizona Department of Administration
CICS - Customer Information Control System
IPC - Information Processing Center
ISD - Information Systems Division
SSR - System Service Request

1.6. Description of Standard

Services related to CICS are provided by the ISD IPC Technical Support staff, primarily handled by a CICS specialist. Services provided by the Technical Support personnel and the CICS specialist are as follows:

Installation of CICS and related software; testing CICS and related software updates, coordination of user tests of CICS and related software prior to final installation to avoid customer interrupts. This includes keeping the CICS versions at vendor-supported and appropriate levels (such as assuring that the current version is Y2K compliant).

Creation and maintenance of all CICS regions.

Monitoring of statistics related to CICS usage.

Tuning CICS for optimum response/usage.

Identification of Customer and ISD IPC responsibilities related to CICS-user databases. Assistance in recovery of CICS-related database files.

Assistance in the resolution of problems regarding CICS and related software packages. It is the responsibility of the customer to resolve their own application abends; however, the IPC will offer some assistance whenever appropriate.

Updates to CICS and related software are done on a periodic basis, keeping in mind the following guidelines:

CICS software updates are scheduled annually. Interim software fixes may be applied as required to resolve problems that may arise.

Upgrades in CICS software releases are made per customer/ISD IPC requirements. CICS-related software is updated as new releases become available. These updates are scheduled with the customer needs in mind.

Additions, changes and deletes to be made to test and production CICS environments are scheduled by the ISD IPC CICS specialist taking into consideration the system's requirements, ISD IPC staffing schedule and computer availability. Individual CICS region operating schedules are maintained by the ISD IPC Operations Section.

1.7. Implications

1.8. References

1.9. Attachments

2. CICS PROBLEM REPORTING PROCEDURES

2.1. Summary of Procedure Changes

Initial publication.

2.2. Procedure Details

Problems encountered related to CICS are to be reported as follows:

Production System Problems including communications errors, slow response, and CICS-related software etc., should be reported to the Help Desk at 542-4357.

Requests for Deallocation/Allocation of Production and Test Database Files from CICS should be directed to the Help Desk at 542-4357. Requests of this type should be kept to a minimum.

Issues Concerning Coordination in Development and Maintenance of CICS Applications should be directed to the CICS specialist at 542-6267.

In all cases, be prepared to give the agency name and location, contact name and phone number, problem type and other specific information that fits the problem, such as software being used (Command Level COBOL, Ideal, etc.), terminals affected (if any) and things you have tried to alleviate the problem.

2.3. References

See ALLOCATION/DEALLOCATION OF FILES PROCEDURES for more information on this subject.

See PROBLEM DETERMINATION/RESOLUTION PROCEDURES for more information specific to problem determination and resolution.

2.4. Attachments

3. CICS AGENCY CONTACT PROCEDURES

3.1. Summary of Procedure Changes

Initial publication.

3.2. Procedure Details

Each agency using CICS should have a person designated to interface with the ISD IPC Technical Support CICS specialist regarding system service requests, problem assistance, etc. This contact should have a back-up, also, in the event of their absence. The agency interface should have a good understanding of ISD IPC CICS policies and procedures and problem determination.

Each agency using CICS is to provide to the ISD IPC Operations section a list of personnel authorized to report problems to the Help Desk, request CICS Application program refreshes, allocation and deallocation of CICS datasets, etc. These lists should be kept up to date to ensure both the security of the CICS regions and to keep from unnecessary delays in requests that might come from unauthorized personnel.

3.3. References

3.4. Attachments

4. CUSTOMER REQUEST PROCEDURES

4.1. Summary of Procedure Changes

Initial publication.

4.2. Procedure Details

REQUESTS	DOA RESPONSIBLE PARTY	PHONE NUMBER
Status of region, allocate/deallocate datasets (test and production)	Operations Help Desk	542-4357
Cycle test region	Operations Help Desk	542-4357
Set new program version	Operations Help Desk	542-4357
Definition changes, additions, etc.	SSR sent by authorized person to DOA SSR for processing	
Schedule changes	Operations Help Desk	542-4357
Questions on CICS-related products	CICS Specialist - Kathy McAlpin	542-6267

4.3. References

CICS Documentation Procedures

4.4. Attachments

5. CICS DEFINITION ASSIGNMENT PROCEDURES

5.1. Summary of Procedure Changes

Initial publication.

5.2. Procedure Details

CICS is made up of IBM software that works with tables that contain user-defined input. These tables contain information about datasets that are used in CICS processing, transactions and their associated programs, terminals, etc.

The CICS environment is set up and maintained by ISD IPC Technical Support personnel, using input from customers defining their application requirements. Forms are available for customer input to this environment. Requests for CICS additions, changes, or deletions are to

be received by the IPC five (5) working days prior to the desired date, to allow sufficient time for processing the requests.

Because of the multi-customer environment in which the Data Center operates and system constraints placed by the CICS and related software, the CICS specialist must make system-related assignments. These assignments are to be made during the detailed design phase of an on-line system.

- The CICS specialist will assign region placement for all systems that will be involved with CICS, taking into account user requirements, system constraints and other factors.
- Each dataset assigned to CICS must be identified by a unique DDNAME. The CICS staff will give final authorization for DDNAMES to be used within CICS.
- Each transaction must be assigned a unique four-character name. The CICS staff will give final authorization for transaction ids. User transactions should not begin with a "C," which is reserved for IBM transactions.
- Terminal-oriented security is provided in the CICS production environment. An integral part of implementing the security is the assignment of customer group and logical unit codes (LUs) that are assigned by the CICS staff. Because terminal security is the purpose of this activity, the codes must be assigned and maintained by a restricted centralized staff. The VTAM network names and logical unit codes are assigned and maintained by the ISD IPC Technical Support staff. Each device assigned for CICS use must be associated with a valid account number for billing purposes.
- All operator sign-on names are administered by the ISD Information Security Service personnel. Security for data and transactions through CICS is to be handled through the use of RACF. It is the responsibility of the customer to analyze their security requirements for set-up of their RACF security and to coordinate with the CICS specialist and the Information Security Services personnel what their needs are. See Information Security/Business Continuity Planning book for specific information on this subject.
- Within a CICS region, each user program and mapset id must be unique. Prior to requesting these assignments, be sure to check with the ISD IPC CICS staff for assistance in these definitions.
  Because the CICS staff must give final authorization for use of DDNAMES, Transaction IDs, etc., it is best to verify the availability of desired names early in development to avoid massive changes later in the case of conflicts.

5.3. References

See Section 8, Sub-Section 2, System Service Requests for additional information on the request process.

5.4. Attachments

6. CICS DOCUMENTATION PROCEDURES

6.1. Summary of Procedure Changes

Initial publication.

6.2. Procedure Details

All CICS applications being updated, deleted or added must be documented using the forms designated by the ISD IPC CICS staff. Questions pertaining to the use of these forms should be directed to the ISD IPC CICS staff. See System Service Requests (SSRs) for additional information on request processing.

CICS resource definitions are made using input from the customers. All hard-copy requests for CICS updates are to be accompanied by the ISD IPC System Services Request (SSR), form DOADC-220.

EMAIL requests can be made by authorized personnel only. These request forms will be accepted without an extra DOADC-220 form.

CICS input is to be made by use of the forms described below. These forms are acquired by use of CA/eMAIL (through TSO or CICSEMAL). Within an established email session, key in "SHOW FORMS." Select the Technical Support entry using a **V**iew of the item number. A list of forms and documentation will be displayed. To complete a form, select the form as follows:

FORM ## (where ## is the item number of the desired form)

6.3. References

See Section 8, Sub Section 2, System Service Requests for additional information on the request process.

6.4. Attachments

6.5. DOADC-600 CICS TASK CONTROL FORM PROCEDURES

6.6. Summary of Procedure Changes

Initial publication.

6.7. Procedure Details

Following are instructions for completion the CICS Task Control Table (PCT). Note that a single form may be used to document more than one transaction with the same request status.
Agency - the name of the requesting agency
Contact - the name of the person at the agency to contact if there are questions
Phone - the phone number of the person at the agency to contact if there are questions

CICS Region Affected - check if it is a production or test file. Enter the CICS region name, if other than test or production. For AHCCCS, please check Other and enter the region name
Application - check the appropriate named application, or fill in the application name if other than those named
Status ("X" one of the following) -
New - adding a new transaction to the region.
Change - changing an existing transaction.
Delete - delete an existing transaction.
Transaction ID - this is the 4-character transaction ID for which action is being requested
NOTE: Suggested naming standard for 4-character transaction ID is 2-character Agency ID Code plus two other alphanumeric characters. Using the Agency Code should ensure uniqueness.
Restart - mark yes or no for transaction restart in case of transaction abend.
Backout - indicate whether transaction backout or commit should take place in event of a transaction abend
Program Name - this is the name of the first program that processes the transaction being defined here.
Below/Any - indicate the task datalocation. If the transaction runs in 24-bit addressing mode, this must be entered as **B**elow. Others can be entered as **A**ny. Errors in designation will cause AEZA, AEZB or AEZC transaction abends and will require a change to be made to correct the definition. Use of **A**ny will allow use of storage above the 16mb line.
TWASIZE To Be Defined - if a special TWASIZE is to be defined, indicate the size; otherwise, leave blank. The default is zeros.
Security Access List - include RACF access groups and/or USERIDs that should have access to the transactions defined on this form.
Special Instructions - self-explanatory

6.8. References

6.9. Attachments

7. DOADC-602 CICS FILE CONTROL FORM PROCEDURES

7.1. Summary of Procedure Changes

Initial publication.

7.2. Procedure Details

Instructions for completion of CICS File Control entries follow:
Agency - the name of the requesting agency
Contact - the name of the person at the agency to contact if there are questions

Phone - the phone number of the person at the agency to contact if there are questions
CICS Region Affected - check if it is a production or test file. Enter the CICS region name, if other than test or production. For AHCCCS, please check Other and enter the region name
Application - check the appropriate named application or fill in the application name, if other than one named

GENERAL DATASET INFORMATION:

Status (put an "x" in the appropriate box for this request) -
New - adding a new file to the region.
Change - changing an existing file.
Delete - delete an existing file.
DDNAME - enter the 8-character file name to be associated with this dataset
File Opened By - Put an "X" next to the appropriate box as to whether the file should be opened at first reference or at region startup
DSNAME - the name of the dataset the action is requested for. If adding, this dataset is to be already created prior to this request being forwarded to the ISD IPC.
NOTE: If this is an alternate path, the DSNAME must be the PATH name.
File Description: - enter a brief description of this file (e.g. "Payroll Master")
Logging - check if you desire logging to be performed. This is good for dynamic transaction backout only, not through an emergency restart
Journalizing Required - check if you desire journal records to be written. Customer applications can establish and write to their own journal datasets. In this case, user recovery programs will have to be written to use their journals. This has not been done in our environment.
DATASET ORGANIZATION **-** check the type of file organization this file is using

IF VSAM FILE, COMPLETE THE FOLLOWING PORTION OF THE FORM:

CISIZE **-** enter the CISIZEs of the DATA and INDEX portions of the VSAM cluster
AIX - place an "X" in the appropriate box to indicate if the dataset is an alternate index
If AIX, DDNAME Of Base Cluster - place the DDNAME of the base cluster here
Participate In Local Shared Resource Pool **-** place an "X" next to the appropriate response to indicate whether this dataset should make use of the CICS shared buffer pool. Generally, all CICS VSAM datasets should participate unless there are special performance considerations. Contact the CICS support group for more information.
RECORD FORMAT - Indicate if the records are fixed or variable length
Max. Concurrent Users - indicate the expected number of concurrent users
Access Pattern: **-** place an "X" next to the appropriate response to indicate if the most frequent access is sequential or random

IF BDAM FILE, COMPLETE THE FOLLOWING PORTION OF THE FORM:

Record Format **-** place an "X" next to the appropriate response to indicate if the record format and, if BLOCKED, the size of the block
For All Files - select the appropriate request type(s)
Special Information - self-explanatory

7.3. References

7.4. Attachments

8. DOADC-603 CICS TRANSIENT DATA DESTINATION FORM PROCEDURES

8.1. Summary of Procedure Changes

Initial publication.

8.2. Procedure Details

Instructions for completion of the CICS Destination Control Table (DCT) follow:
Agency - the name of the requesting agency
Contact - the name of the person at the agency to contact if there are questions
Phone - the phone number of the person at the agency to contact if there are questions
CICS Region Affected - check if it is a production or test file. Enter the CICS region name, if other than test or production. For AHCCCS, please check Other and enter the region name
Status ("X" one of the following) -
New - adding a TD entry to the region.
Change - changing an existing TD entry.
Delete - delete an existing TD entry.
DSNAME - the name of the Dataset the action is requested for. This dataset is to be already created prior to this request being forwarded to the ISD IPC. If the destination is to be Sysout for print, indicate the output class and Remote ID, if applicable.
DSCNAME - the DSCNAME of the dataset the action is being taken for (for resident dataset Control blocks only).
DESTID - the 4-byte destination identification to be used.
Purpose/Comments - a brief summary of the usage of this transient data destination.
DCB Information:
BLKSIZE - the length in bytes of the block (the maximum length for variable-length records plus 4 bytes for LLBB).
RECFM **-** the record format of the Dataset. The options are:
FIXUNB - fixed unblocked records (default) Use this for JCL to be submitted to the internal reader for processing.
FIXBLK - fixed blocked records.
VARBLK - variable blocked records.
VARUNB - variable unblocked records.
LRECL - the length of the record (largest record length in variable-length records).
Extrapartition TD only:

File opened at - indicate whether the TD destination will be opened by CICS or by the customers' program.
Type of File - indicate whether the file type is to be input, output or read back.
Intrapartition TD only:
Trigger Level - the number of data records (the trigger) to be accumulated for a destination before automatically requesting the creation of a task to process these records (default is 1).
Trans. ID - the 4-character name of the transaction that will be automatically initiated when the trigger level is reached.
Destination Type - the type of destination the data will be sent to (file or terminal). If the destination is a terminal, indicate the 4-character CICS Terminal ID.
Recovery Required - the recoverability attributes of the destination in the event of an abnormal termination of CICS. Default is no. Options are logical and physical.
Special Information - self-explanatory

8.3. References

8.4. Attachments

9. DOADC-604 CICS PROGRAM/MAPSET FORM PROCEDURES

9.1. Summary of Procedure Changes

Initial publication.

9.2. Procedure Details

Following are instructions for completion the CICS Program/Mapset form input to the Program Processing Table(PPT) follow. Note that a single form may be used to document more than one program with the same request status.
Agency - the name of the requesting agency
Contact - the name of the person at the agency to contact if there are questions
Phone - the phone number of the person at the agency to contact if there are questions
CICS Region Affected - check if it is a production or test program. Enter the CICS region name, if other than test or production. For AHCCCS, please check Other and enter the region name
Status ("X" one of the following) -
New - adding a new program and/or mapset to the region.
Change - changing an existing program and/or mapset.
Delete - delete an existing program and/or mapset.
Program name - the name of the program this action is requested for, if applicable.
Language - the program language used; A = Assembler, C = COBOL. A blank will default to assembler.

Below/Any - indicate if this program is to be defined to **B**elow the line (24-bit mode) or **A**ny (31-bit mode)
Program or Map -
Ena/Dis - mark if the program or mapset is to be enabled or disabled
Norm/Tran - code **N** if the program/mapset entered on this line is of normal use (will be eligible for removal from storage when use count = zero. Transient should be coded for programs and mapsets referenced infrequently.
Mapset Name - the name of the mapset this action is for, if applicable.
Special Instructions - self-explanatory

9.3. References

9.4. Attachments

10. DATASET RESPONSIBILITY PROCEDURES

10.1. Summary of Procedure Changes

Initial publication.

10.2. Procedure Details

Customers are responsible for the creation, backup and maintenance of their VSAM and IMS datasets to be used with CICS. Naming conventions for these datasets have been outlined by the ISD IPC DASD Group (see that Section). CICS transactions that update data should take advantage of Dynamic Transaction Backout. It is the responsibility of the customer to assure that their backup and recovery procedures are in place.

The only responsibility for recovery that the ISD IPC assumes is the collection of CICS Production Region journal data on tapes. These tapes are collected and held for a period of seven (7) days. If the customer intends to use these journals for recovery, they are responsible for providing a program for recovery of data using these journal files.

10.3. References

All problems and questions related to the use of databases (Datacom/DB and the related CA products) are to be addressed to the ISD EAS Data Resource Management Group. See Section 5, Database Support, for information on support provided for these products.
References

10.4. Attachments

11. CICS TRANSACTION FORMATTING PROCEDURES

11.1. Summary of Procedure Changes

Initial publication.

11.2. Procedure Details

The processing philosophy of any on-line system is for a transaction activity to be in and out in a minimum amount of time. This allows many on-line customers to utilize the services of CICS and not impose unreasonable demands for computer resources. True conversational mode requires that a transaction continually remain in memory until a lengthy session at the terminal is completed. This creates an unfair environment for other on-line customers and may badly deteriorate terminal response time. Therefore, the ISD IPC will not allow any transactions that are conversational.

The processing characteristics of certain transactions may be lengthy in time; hence, the need to divide the processing activity into several steps. At the terminal, it appears as if one is operating in conversational mode but within the CICS region it is not a true conversational activity.

This pseudo-conversational technique is specified by the system analyst designing the transaction and is implemented by the programmer/analyst to code and test the transaction and applies only when there is a possibility that a transaction processing activity will take longer than 2-3 seconds.

All transactions that update data should take advantage of Dynamic Transaction Backout.

11.3. References

11.4. Attachments

12. ALTERNATE INDEX PROCEDURES

12.1. Summary of Procedure Changes

Initial publication.

12.2. Procedure Details

The updating of alternate index files is a time-costly activity and works against the quick response time objective of on-line processing. As a result, the use of alternate indexes in an update mode is strongly discouraged in the CICS environment.

When using alternate indexes, the path names must be identified to the CICS specialist for inclusion in the CICS start-up procedure, not the actual dataset name. Failure to define the proper dataset name will result in open abends when trying to access that dataset.

12.3. References

12.4. Attachments

13. LOAD LIBRARY PROCEDURES

13.1. Summary of Procedure Changes

Initial publication.

13.2. Procedure Details

Load libraries containing programs used within the CICS environment are not to be compressed during CICS execution. Compression of a customer's load library can result in APCP program abends caused by programs being moved in the compression from where the CICS region expects them to be.

Load libraries that are set up with the capability of going into extents may, occasionally, have programs that are compiled and a new copy set during CICS execution be linked into an extent, where CICS cannot find the program. This will cause an APCP abend on the transaction trying to use the program. It is suggested that load libraries be established in a single extent.

It is the responsibility of the customer to create load libraries for their applications, as well as schedule library compresses, backups, etc.

13.3. References

13.4. Attachments

14. ON-LINE PROGRAM GUIDELINES AND PROCEDURES

14.1. Summary of Procedure Changes

Initial publication.

14.2. Procedure Details

On-line programs should, whenever possible, be kept to a 10K Programs to 12K size.
It is not desirable to use perform statements in the on-line environment. If performed routines are used, place them adjacent to the caller.

Avoid using long searches for data in tables.

Limit browsing to enough data to fill the screen plus one. The key for the additional record can be stored until the operator requests a further page.

Avoid using "Read Update" when no change is intended.

Code "Handle Condition MAPFAIL" for map receives to avoid abends.

Programmed abends are to be clearly documented for end users to assist in problem determination.

Use "MAPONLY" and "DATAONLY" options when applicable.

Always test the EIBAID field to ensure data was entered by the appropriate (planned) key.
Avoid sending unnecessary characters, such as blanks; keep message lengths to a minimum.

Take advantage of the "redefines" clause to minimize the size of the working-storage section.

Programs accessing DL/I databases should terminate the PSB schedule prior to returning to CICS to free the PSB between screens.

For transaction storage savings, it is not desirable to "link" between programs. Use of XCTL is advised. For common routines, a load would be preferable. If a link must be done, it should never be more than one deep. The W-S Section should be kept as small as possible; use of temporary storage is more desirable.

Temporary storage use should be of the auxiliary temporary storage. This type of temporary storage is recoverable. Also, be sure to delete temporary storage records.
Within a system, a method of enqueues should be established (enqueue in ascending or descending sequence) to avoid deadlocks.

Keep working storage as small as possible. Specify constants directly, when possible, rather than as variables in working storage. Code literals in the procedure division rather than in working storage. Take advantage of the redefines clause to save working storage space.

14.3. References

CICS customers may view current manuals for the level of CICS software that is being used through Book Manager.

14.4. Attachments

15. CICS ENVIRONMENTS PROCEDURES

15.1. Summary of Procedure Changes

Initial publication.

15.2. Procedure Details

The CICS environments are established as test or production. Following are procedures that have been established for the two types of environments. The production environment is more rigidly protected from interference than test, although our shared environment requires a certain amount of protection to be established and adhered to keep the CICS regions available for general use.

15.2.1.REGION SCHEDULES

Test and production region schedules are outlined in the Operations CICS Region Schedules section.

Test regions are expected to be up and available during the entire working day. Because more than one customer is assigned to a test region, the test regions cannot be cycled regularly to accommodate individual customers. Requests for this type of activity are to be kept to a minimum and must be addressed to the Help Desk at 542-4357. The caller must be a person listed on the customer's authorized list provided to the ISD IPC Operations.

The production environment includes multiple CICS production regions. Operating schedules for these regions have been set up with the customers' needs in mind; however, each production region is viewed as a full-time on-line system. Placement in production regions is regulated by the CICS specialist.

15.2.2.DIAGNOSTIC FACILITIES

The CICS **CMAC** transaction is available in all test and production systems. With this transaction, you can quickly get IBM’s description of both CICS abend codes and any DFHxxxxxx messages you have returned to the screen. Note that it does not include information about any product codes other than CICS. To use it, on a blank screen within any CICS region, key in CMAC. The screen returned will have a place to key in the two-character component id (if looking up a DFH message) and another field is available to key in the last four digits of a DFH message or a four-character CICS abend code. When looking up a DFHxx9999 message, the DFH portion is assumed and not used with this facility.

The CICS Execute Diagnostic Facility (CEDF) transaction is available on all test regions to aid programmers in the testing of their programs. For information on how to use the CEDF transaction, you may reference the CICS manuals in Book Manager (see ***Book Manager***). The CEDF transaction is **not** available for use in the production environment. If a production

problem should occur in which no other way to debug it is available, the CICS specialist can be contacted to work with the responsible programming staff to use this facility briefly in production.
Xpediter/CICS is also available on all test regions to aid programmers in the testing of their programs. For information on how to use Xpediter, see the CEDF transaction, you may reference the CICS manuals in Book Manager (see RELATED SOFTWARE PACKAGES). Xpediter/CICS is not available in the production environment.
Within the CICSTEST environment, the programmer testing transaction CECI can be invoked for use within the Application-Owning Region CICSTES1, by using the AECI transaction. The functionality for the transaction remains the same as for CECI. Note that CECI/AECI transactions are a testing facility and not available in the production environments, as they could compromise the integrity of the production environment.

15.2.3.PROGRAM REFRESHING

Because the test regions are not cycled during the day, programs that have been recompiled must have the new version set into the region. Requests of this nature are to be made to the Help Desk at 542-4357. The caller must be a person listed on the customer's authorized list and the person must have the program name(s) available. Requests of this type should be kept to a minimum. An alternate is described in 15.2.6, Programmer Assistance Transaction.
Because the production regions are not cycled, programs that have been recompiled must have the new version set into the region if it is required prior to the daily cycle schedule. Requests of this nature are to be made to the Help Desk at 542-4357. The caller must be a person listed on the customer's authorized list (see Error! Reference source not found.) and the person must have the program name(s) available. Requests of this type should be kept to a minimum; production environments should include programs that have been thoroughly tested prior to implementation.

15.2.4.ALLOCATION/DEALLOCATION OF FILES

If it is required that a file that is allocated to the test region be released for batch testing, the request is to be made to the Help Desk at 542-4357. Again, the caller must be on the customer's authorized list and these requests should be kept to a minimum. The caller, when requesting that the dataset be deallocated from CICS, must provide the file's DDNAME. For allocation of a file, the caller must be prepared to provide the DDNAME and the file name; both items are required for that function to be performed.
If it is required that a dataset that is allocated to the production region be released from CICS for any reason, the request is to be made to the Help Desk at 542-4357. Again, the caller must be on the customer's authorized list and these requests must be kept to a minimum. The caller, when requesting that the dataset be deallocated from CICS, must provide the dataset's DDNAME. For allocation of a file, the caller must be prepared to provide the DDNAME and the file name; both items are required for that function to be performed.

If there is a normal schedule for certain files to be released from CICS (test or production) for specific purposes, such as batch processing, arrangements can be made to have the files closed and/or opened by Operations at specified times or on specific request.

15.2.5.JOURNALIZING

System journalizing on the test CICS regions is written to disk. These disk journals are used by the system for dynamic transaction backout. These journals are not copied off to tape for long-term recovery requirements.
System journal records on the production CICS regions are written to disk. These disk journals are used by the system for dynamic transaction backout and emergency restart of the regions and the information are routinely copied to tapes, which are then kept for seven (7) days.
If, during normal CICS operation, a user dataset is found to be corrupted, the customer may request that ISD IPC Operations deallocate the dataset from CICS and switch the CICS journals, so that the journal records since CICS start-ups are written to tape for use in the dataset recovery.
User journals are specifically requested for setup by the end user. They must prepare their own recovery programs to use journal records written to their specific journal files. They must contact the CICS Specialist to coordinate this type of setup.

15.2.6.PROGRAMMER ASSISTANCE TRANSACTION (TK01)

A CICS transaction has been created to allow programmers to perform some basic housekeeping-type functions within the **test** environment. This transaction, TK01, is used as follows:

- Within the CICS test region, key in TK01 and press Enter.
- A menu will be returned. Make a selection from this menu and press the enter key, again.
- Enter the appropriate information on the screen returned to you and press Enter, again. Some sort of response will be returned to you, based on your request. If an additional screen is invoked with your information, you are directed to press the Enter key, again, to return to your request screen.
  There three types of requests that can be made; the requests can be made directly by invoking the transaction for that process directly:
  TK02 Program processing
  TK03 Transaction processing
  TK04 File processing
  When you are finished with the process, clear the screen and the transaction will be complete.

15.3. References

15.4. Attachments

15.5. PROBLEM DETERMINATION/RESOLUTION PROCEDURES

This section is to give the CICS contact procedures to use in the initial definition of CICS problems and specific information to be used in reporting CICS problems to the ADOA ISD IPC.

15.5.1.DEFINING THE PROBLEM

There are many different types of problems that can be encountered in daily CICS use. Following are the most frequently encountered problems and the kinds of information that should be gathered to aid in the resolution of those problems:

Terminal cannot get into CICS

If a terminal is unable to get into the CICS region, several things should be checked.

- What kind of message are you receiving at the incomplete attempt?
- Can the terminal be used in the other region (that is, if the attempt is to get onto the production region, can the terminal successfully be signed on to the test version of the region)? If you can get another CICS region, the problem may lie in the region you are attempting to gain entry to. If you cannot, this could mean a problem with the terminal itself or the communications method.
- Can the terminal be used in TSO? Ability to do this would probably eliminate the possibility of the problem being in the terminal.
- Are there other terminals apparently having the same problem? This could point to a problem with a cluster of terminals due to a controller problem or something else on the terminal end.
- Have any changes been made recently to the terminal or controller or AS/400, etc.? If there have been some, check out the changes to verify their pertinence to the current problem.

These types of problems can affect one or more terminals.

As each check is made, the results should be recorded so that the information can be forwarded to the ISD IPC Help Desk with a request for assistance, if these checks don't point out the problem.

The Region Appears to be Hung Up

In this instance, it is necessary to determine if the problem lies with one terminal or more than one and to find out what transaction(s) are in progress at the time.

If some terminals at your site are hung up but not all, the problem may lie within the terminal affected or the cluster it is a part of, etc. The problem also might be with the transaction that was in process (if any). Check to see if that transaction has been recently changed. If it has, the new version is likely to be the problem.

The information above should be noted in the event that the problem must be reported to the Help Desk.

Print Has Been Directed to a Printer But Doesn't Print

After verifying that the printer has been turned on, make sure you have the identification of the printer and then report the problem to the ISD IPC Help Desk; the ISD IPC has procedures in place to look into printer problems.

If a problem appears to be occurring on a regular basis, it is important to document the occurrences and to report the problem, in writing, including as much detail as possible. Things to include in this type of report are:

- A good problem description including a sequence of events, when appropriate, what terminals are likely to be involved, what transactions might be involved, if the problems occur during a particular time schedule, etc.
- Try to pin down the date on which the problem first appeared.
- Check to see if there were any hardware or software changes on the customer end to a server, terminal, controller, etc. If so, make a note of the changes and what date(s) changes were made.
- If possible and appropriate, get a printout of error messages, etc. that relate to the problem.
- Find out if the problem can be reproduced. If it can be reproduced, be prepared to participate in a test, if required.
-

15.5.2.REPORTING PROBLEMS

Once the CICS customer has checked out a problem on their end and cannot get it resolved, the ISD IPC Help Desk (phone 542-4357) is the first level of assistance.
The person contacting the Help Desk should have the results of their cursory checks of the problem and be able to provide the Help Desk personnel with such pertinent information as their identity and phone number, a clear problem description, terminal(s) involved, timeframe of the problem, etc. The Help Desk personnel will contact the appropriate person to assist in the resolution of the problem.

15.5.3.PROBLEM DOCUMENTATION

The CICS specialist may need additional documentation to find a resolution to a problem. One piece of critical documentation is a program compile. If a program compile is requested, it is imperative that the "PMAP" compile option be used (OS/VS COBOL programs) or the “LIST” option (COBOL II); without the information that provides, the program debugging cannot be done.

15.6. References

15.7. Attachments

15.8. RELATED SOFTWARE PACKAGES

This section is devised to provide information to CICS customers regarding software available for use in conjunction with CICS.

PROTERM AND CICS

ProTerm has been installed on the system to aid in testing program changes, stress testing and various other functions. Those customers desiring the ability to use this product should have their system support group contact the ISD IPC CICS support people for additional information. Requests should be via the System Service Request (SSR), form ISD-220, and should include the potential number of concurrent users of the product. ProTerm can be used with CICS to assist in testing and stress testing, as well as in production to perform some pre-determined processes.

Authorized ProTerm users can access the product with CICS as follows:

- To sign-on the ProTerm multi-session product, you must first log on to TSO and issue the TSO command "PROTERM."
- From the ProTerm screen, you can then start a session with the CICS regions you have access to: "S XXXXXXXX" (where XXXXXXXX is the region you wish to access). Once you have started the session, you can get back to ProTerm by entering the ProTerm "END" command (PF3). Jumping from session to session is accomplished by entering the "SESSION #" command, where # is the port number of the session. The ProTerm "SPLIT" command will split the screen so one screen will be normal ISPF and the other will be the ProTerm session.
- You can assign your PFKEYS to issue ProTerm commands and/or ISPF commands i.e. PF24 ===> SESSION, then just enter the session number you want to jump to, and press PF24.
- ProTerm also has an ability to record scripts that can be played back to simulate a user keying on a keyboard. Use the "R #" command to start recording a script. The ProTerm scripts are stored in a PDS that you allocate and point to when you use the record or play commands. To play the script, use the "P #" command, where # is the port number you want the script to be played upon. NOTE: (always "STOP #" the RECORD before you "END #" it.

There is also a batch interface in which you can play recorded scripts. For stress testing, you can record a user's actions for a full day and play it back through batch. Stress testing is desirable in test environments only.

If you have any questions, you can contact the Help Desk (542-4357) and request that someone return your call on the issue.

XPEDITER

XPEDITER/TSO and XPEDITER/CICS are available for testing and debugging applications and can successfully be used within the MRO environment. XPEDITER/CICS gives the CICS programmer complete control over the execution of application code, trapping of abends, and access to data files and CICS storage, including tables and DSECTS. An easy-to-use architecture allows you to interactively debug application programs quickly and accurately. With the exception of regions identified below, within CICS, use transaction XPED to access the XPEDITER/CICS primary menu. Within the primary menu, you can interface to CICS ABEND-AID.

CICSTEST - within this region, use XPE1 to access the XPEDITER/CICS primary menu to work with applications that route to the CICSTES1 application region for processing.

ABEND-AID/FX

CICS Abend-Aid is a tool for application programmers to use. It analyzed CICS transaction abends and recommends corrective action based on the abend code. User- and software product-provided abend codes are not known to Abend-Aid, however, unless the codes and their respective descriptions are provided to the CICS support personnel to be added to the product via tailoring.

Abend-Aid is available in both test and production environments.

MVS/QUICK-REF AND CICS

MVS/QUICK-REF is available for use via TSO and can be used to look up CICS abends, as well as other pieces of valuable information. See MVS/QUICK-REF for specific information about this product.

BMC ULTRAOPT/CICS

The BMC ULTRAOPT/CICS product is used to reduce length of VTAM data streams in the MVS environment. It substantially reduces the length of inbound and outbound data streams for 3270 terminals and SCS printers. There are some applications that cannot allow the use of an optimization feature. In those cases, optimization can be excluded by LU name, APPLID (CICS region)name or APPLID/Transaction ID name. Special needs are to be conveyed to the ISD IPC CICS Specialist via use of a System Service Request.

15.9. References

15.10. Attachments